

# OCL\* 300

## OPTICAL COMMUNICATIONS LINK

\$13K  
(not 12set)

### PRELIMINARY DATA

#### APPLICATIONS

- Computer-to-computer communication
- Remote terminal-to-computer transmission
- Voice transmission
- Facsimile transmission
- Remote sensor data transmission
- CATV
- Secure communication

#### FEATURES

- Digital or analog operation
- Narrowband, voiceband, broadband capability
- No FCC licensing required
- Solid-state reliability
- Easy installation

#### PRINCIPLES OF OPERATION

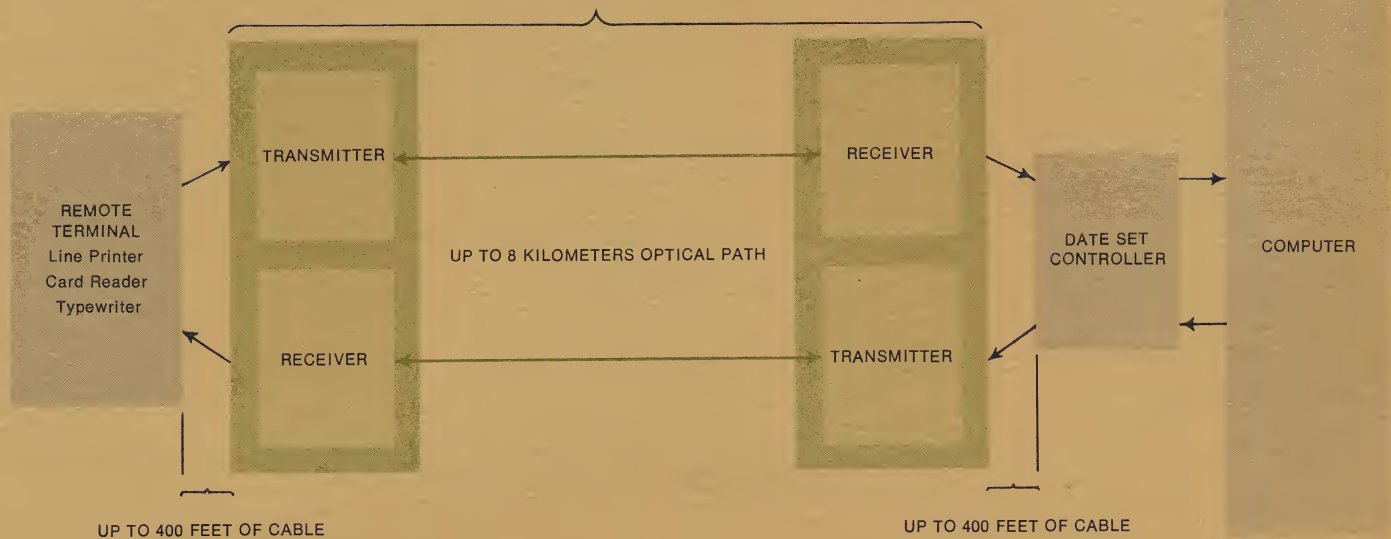
An IR light emitting diode located near the focal point of a lens is the transmitting element. The diode can be turned on and off very rapidly. For digital signals the "on" state corresponds to a 1, and the "off" state to a 0. For analog signals, the output of a light emitter is intensity modulated by controlling the current. The receiving photo detector is sensitive to variations of this light intensity. The light emitter has a rated continuous wave power output of 7 milliwatts in a 400 Å bandwidth centered at about 9200 Å. In the full "on" state the light emitter is driven by 500 milliamps at 1.8 volts.

A solid state photo detector mounted near the focal point of the receiving lens is the receiver element. The receiver consists of a solid state amplifier with automatic gain control and logic circuitry. The AGC compensates for variations in path loss due to adverse weather conditions. The logical output of the receiver of the OCL is generally connected to a modem.

**UNIVERSITY INSTRUMENTS CORPORATION**  
(AN OPERATION OF KDI CORPORATION)  
2585 ARAPAHOE AVENUE, BOULDER, COLORADO 80302  
PHONE (303) 443-4210



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### SPECIFICATIONS

**Data Rates** 0 to 350 kilobits per second with customer-provided clocks. Optional clock with 0.01% accuracy can be specified for data rates of 1.2, 2.0, 2.4, 4.0, 4.8, 9.6, 40.8, 50.0, 230.4, and 250.0 kilobits per second. Other rates available on special order. Data sets not required with clock option.

#### Range

**Clear Weather Operation** 8 kilometers up to 50.0 kilobits per second.

**All-weather Operation\*** 2 kilometers up to 50.0 kilobits per second.  
1 kilometer at 250.0 kilobits per second.

**Operating Modes** Full duplex, half duplex, simplex.

**Interface Options** EIA RS-232C, MIL-STD-188C, AT&T 300 series, 0.5V/130Ω bi-polar.

**Operation** Synchronous or asynchronous.

**Inter-connection Cable** Up to 400 feet without equalization.

**Power Requirements** 25 watts at 115 volts, 60 cycle or 12 volt battery at 1 amp

**Environmental Capability** -20 to +60°C (operating). To 100% humidity.

**PROVEN RELIABILITY.** An OCL has been operating since July, 1969 at 40.8 kilobits/sec, handling all of the data communications between a CDC 6400 and a remote terminal at a distance of one kilometer.

**COST SAVINGS.** Rental of modems is not required. Costly cable installations can be avoided. Antennas, microwave transmitters, and FCC licensing are unnecessary.

**FLEXIBILITY.** The OCL can be used for high or low data rates, and for analog or digital signals. Many low data rate devices can be multiplexed for transmission across a single OCL system.

**CONVENIENT INSTALLATION.** The OCL can be installed indoors or out. Transmission through window glass does not affect operation. A telescopic alignment device is built in for easy aiming. Light weight and small size permit easy portability.

**STANDARD INTERFACE.** The OCL can be interfaced with any standard data set or data set controller.

\*In rain and fog, the range is twice the visibility for up to two kilometers. In snow, the range is slightly beyond visibility. Smog has no effect on range. Transmission distance can be extended by the use of repeater stations.

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Please include me on your mailing list on the

☐ Optical Communications Link.

☐ Please have a sales engineer call.

The application I have in mind is for:

☐ computer link    ☐ voice link    ☐ facsimile transmission

☐ teletype link    ☐ other (please specify)\_\_\_\_\_

Range to be    ☐ under 1/2 mile    ☐ 1/2 to 1 mile

☐ over 1 mile (specify)\_\_\_\_\_

Speed for digital operation\_\_\_\_\_bits per second;

for analog operation\_\_\_\_\_bandwidth.

Reliability required is ☐ all-weather continuous operation

☐ some down-time resulting from adverse local weather conditions is acceptable.

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I need information for ☐ References and Files

☐ Current Applications